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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,800	12/09/2003	Raymond F. Watts	2003L008	4327

7590

08/15/2006

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EXAMINER

GOLOBOY, JAMES C

ART UNIT	PAPER NUMBER
1714	

DATE MAILED: 08/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/731,800

Applicant(s)

WATTS ET AL.

Examiner

James Goloboy

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Watts (U.S. Pat. No. 6,337,309).

Watts '309 discloses in the abstract a transmission fluid composition comprising a major amount of a lubricating oil as in Claim 1(a), and an additive package as recited in Claim 1(b). The reference further discloses in column 7 (Structure II), a succinimide friction modifier that is the reaction product between an C₆-C₃₀ alkyl substituted succinic acid or anhydride and a polyamine, which may have a C₄-C₃₀ hydrocarbyl group, such as the tetraethylene pentamine disclosed in column 8 line 66. The lower endpoint of the range disclosed by Watts for the alkyl substituent of the succinic acid (C₆) coincides with the upper endpoint of the range recited in Claim 1, therefore anticipating the lubricant composition of the claim.

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1, 2, 3, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watts (U.S. Pat. No. 6,337,309) in view of Kinoshita (U.S. Pat. No. 4,396,516).

The discussion of Watts '309 in paragraph 2 above is incorporated here by reference. Apart from the C₆ substituent discussed above, Watts '309 does not disclose the reaction product of an unsubstituted or C₁-C₆ alkyl substituted succinic or maleic acid or anhydride as in the currently presented Claim 1(c), nor the length of the hydrocarbyl group of the amine as in the currently presented Claim 3.

Kinoshita, in column 2 lines 44-47, discloses a lubricant comprising the reaction product of succinic or maleic acid or anhydride with a C₈-C₁₈ primary amine, as recited in Claims 1, 2, and 6. In column 1 line 41 and column 7 (Example 4 and Comparative Example 1), this additive is shown to reduce coefficients of friction in comparison to

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plain lubricating oils. Also, the length of the hydrocarbonyl group attached to the amine disclosed in the reference greatly overlaps the C₁₂-C₂₂ range recited in Claim 3.

It would have been obvious to one of ordinary skill in the art to include in Watts '309 a succinic or maleic acid or anhydride material, as taught by Kinoshita, in order to lower the coefficient of friction between surfaces where at least one surface is made of a non-ferrous material, as taught in column 1 lines 35-44 of Kinoshita. Furthermore, it would have been obvious to modify the C₆ alkyl substituted succinic anhydride of Watts '309 to an analogous maleic anhydride, as Kinoshita teaches that maleimides also have friction reducing properties.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watts '309 in view of Kinoshita as applied to claims 1, 2, 3, and 6 above, and further in view of Srinivasan (U.S. Pat. No. 5,578,236).

The discussion of Watts '309 in view of Kinoshita in paragraph 5 above is incorporated here by reference. Watts '309 in view of Kinoshita does not teach the percentage of friction modifier to be present in the composition.

Srinivasan, in column 10 lines 51-54, discloses a concentration of up to 1.25% by weight for a friction modifier in a power transmission fluid, overlapping the range recited in Claim 4.

It would have been obvious to one of ordinary skill in the art to include in Watts '309 in view of Kinoshita the concentration of friction modifier taught by Srinivasan, in

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order to obtain a composition that sufficiently reduces the coefficient of friction between two surfaces.

7. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watts '309 in view of Kinoshita as applied to claims 1, 2, 3, and 6 above, and further in view of Ohtani (U.S. Pat. 5,344,579).

The discussion of Watts '309 in view of Kinoshita in paragraph 5 above is incorporated here by reference. Watts '309 in view of Kinoshita does not teach the use of the fluid composition in an automatic transmission, or more broadly a power transmission device.

Ohtani discloses in column 2 lines 21-35 a friction-reducing lubricant additive, and in column 1 lines 21 and 30-31 notes the utility of friction-modifying lubricants in automatic transmission and other power transmission devices, as recited in Claims 7 and 8.

It would have been obvious to one of ordinary skill in the art to include the fluid disclosed by Watts '309 in view of Kinoshita within an automatic transmission or other power transmission device, as taught by Ohtani, for the purpose of extending the useful life of the transmission device, as disclosed in column 1 line 21 of Ohtani.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watts '309 in view of Kinoshita as applied to claims 1, 2, 3, and 6 above, and further in view of Bloch (U.S. Pat. No. 5,597,506).

The discussion of Watts '309 in view of Kinoshita in paragraph 5 above is incorporated here by reference. Kinoshita further discloses, in the reference's Claim 1 (column 8 lines 50-61), that the C₁₈ hydrocarbon group of the primary amine to be reacted with maleic or succinic acid or anhydride may be saturated. Kinoshita does not teach whether the C₁₈ hydrocarbon group is to be linear, forming octadecyl amine as in the currently presented Claim 5, or branched.

Bloch, in column 1 lines 46-55, teaches that friction reducers typically consist of a polar head group and a friction reducing substituent group comprising a "substantially linear" hydrocarbyl group, such as an octadecyl group. Furthermore, replacement of the substantially linear group with a branched hydrocarbyl group leads to the formation of a friction increasing additive, as disclosed in column 9 lines 4-9.

It would therefore have been obvious to one of ordinary skill in the art that the saturated C₁₈ hydrocarbyl group attached to the amine of Kinoshita should be linear octadecyl amine in order to form a friction reducing additive as taught by Bloch. Although the specification of Bloch teaches that the unsaturated linear C18 hydrocarbyl group oleylamine is preferred, all disclosures of prior art including unpreferred embodiments must also be taken into consideration for rejection under 35 USC 103. See *in re Lamberti*, 192 USPQ 278, 280 (CCPA 1976).

Conclusion

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9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ichihashi (U.S. Pat. No. 6,232,275) discloses an alkyl succinimide lubricant additive where the alkyl group contains as few as 5 carbons.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Goloboy whose telephone number is 571-272-2476. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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